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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,251	11/20/2001	Wilhelmus Hendrikus Alfonsus Bruls	PHNL 000655	9628

24737 7590 04/06/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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BRIARCLIFF MANOR, NY 10510

EXAMINER

RAO, ANAND SHASHIKANT

ART UNIT PAPER NUMBER

2621

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/989,251

Applicant(s)

BRULS ET AL.

Examiner

Andy S. Rao

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/22/05 has been entered.
2. Applicant's arguments with respect to claims 1-3 and 6-10 as filed on 11/22/05 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faroudja (US Patent: 5,754,248) in view of Astle (US Patent: 5,590,064).

As for Claim's 1, 2, and 6-8, Faroudja teaches decoding the compressed encoded SIF video signal to obtain a decoded video signal (Faroudja: column 5, lines 27-46), the output of a decoder being applied to a video line multiplier (58) (Faroudja: column 12, lines 33-37; figure 15). The vertical non-linear enhancer (60) then spectrally expands the line-multiplied signal in

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the vertical domain (Faroudja: column 12, lines 44-46; figure 15). The vertical non-linear enhancer is applied to a frame multiplier (62) prior to display (Faroudja: Column 13, lines 57-65; figure 15). Although Faroudja fails to specifically teach the use of edge enhancement that is carried out by peak filtering by a spread of pixel values, Astle does (Astle: column 22, lines 35-40). Astle discloses the output of the decoder used in his invention is transferred to a post processing circuitry for additional processing (Astle: column 22, lines 40-55; figure 13) in order apply a form of edge enhancement to preserve the true edges of the images for additional clarity (Astle: column 23, lines 15-25). It would have been obvious for one of ordinary skill in the art to incorporate the edge enhancement as executed through post-processing into the Faroudja method in order to preserve true edges of the decoded images for additional clarity. The Faroudja method, now incorporating the Astle edge enhancement as executed through post processing, has all of the features of claims 1-2, and 6-8.

Regarding claims 3 and 9, the Faroudja method, now incorporating the Astle edge enhancement as executed through post processing, teaches vertically enhancing the image where Faroudja shows that the degree of vertical spectral expansion should be correlated with the amount of increase in the line rate (Faroudja: column 12, lines 56-58). This shows that by increasing the number of lines during the spatial up-conversion is the same idea as vertically up-converting the lines of the image. Although the Faroudja method, now incorporating the Astle edge enhancement as executed through post processing, fails to specifically teach that horizontal spatial up-conversion is after the temporal up-conversion, the examiner notes that this is within the level of one of ordinary skill in the art. Faroudja teaches both size and frame rate changes can happen in any order. Further, once the horizontal spatial up-conversion is increased, the time

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between vertical sync increases thus making the temporal up-conversion more difficult (Faroudja: column 12, lines 60-67; column 13, lines 1-14). Therefore it would have been obvious to one of ordinary skill to do the horizontal spatial up-conversion after the temporal up-conversion to reduce the processing loads.

As for Claim 10, the Faroudja method, now incorporating the Astle edge enhancement as executed through post processing, teaches a recording and transmitting system (Faroudja: column 2, lines 19-38). This recording and transmitting system is used with the limitations discussed in the above rejections.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Andy S. Rao  
Primary Examiner  
Art Unit 2621

asr  
April 1, 2006

ANDY RAO  
PRIMARY EXAMINER

A large, stylized handwritten signature in black ink is written over the printed name and title of the examiner. The signature is fluid and cursive, starting with a large loop and ending with a long horizontal stroke.